

## **CHAPTER 1**

# **DOD CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM MANAGEMENT AND OVERSIGHT**

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## **1.1 MANAGEMENT IMPLEMENTATION EFFORTS**

During FY96, the Department of Defense (DoD) completed implementation of the process to consolidate, coordinate, and integrate the chemical and biological (CB) defense requirements of all Services into a single DoD CB defense program. Additionally, DoD completed the final steps to ensure close and continuous coordination between the Chemical Biological Warfare Defense program and the Medical Chemical Biological Defense program. Refinement of that process continued during FY97.

### **1.1.1 Management Reviews**

DoD has continued to use the Defense Acquisition Board (DAB) process to conduct oversight of the consolidated CB defense program. Integrated product team working groups and overarching integrated product team meetings are conducted throughout the process to review progress concerning current actions, discuss new management issues, and develop recommendations for DAB decision.

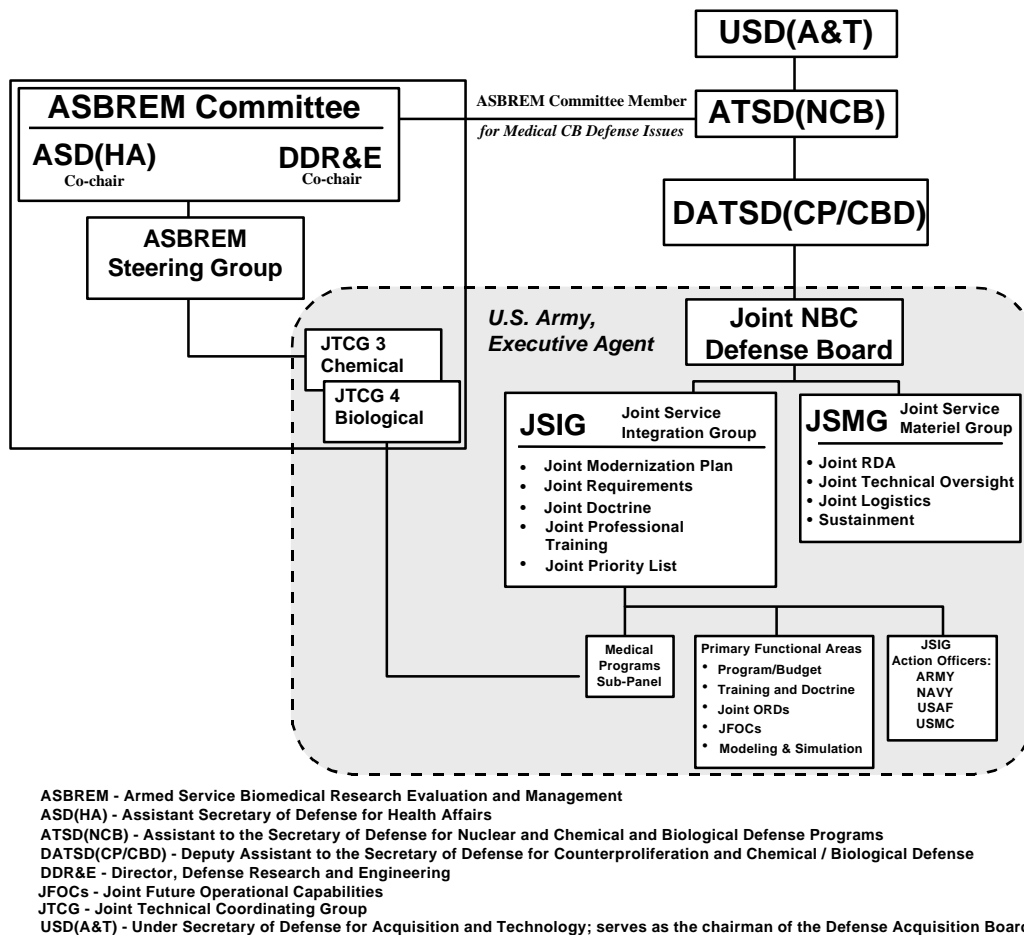
As part of the Program Objectives Memorandum (POM) process, the OSD Director for Program Analysis and Evaluation conducted a major front end assessment of DoD counterproliferation programs, including CB defense. The Defense Resources Board (DRB) reviewed and approved the results of the assessments. A Program Decision Memorandum incorporated the DRB decisions into the development of the FY98 budget request.

### **1.1.2 Coordination and Integration of the Program**

Through the Joint Service Agreement on NBC Defense, the Military Services have established a viable structure which ensures that Service operational needs are integrated and coordinated from their inception and that duplication of effort is eliminated from NBC defense research, development, and acquisition. The series of reviews conducted by the Joint Service Integration Group and the Joint Service Materiel Group, both separately and together, have proved to be an appropriate organizational method to accomplish the coordinating and integrating function.

## **1.2 ORGANIZATIONAL RELATIONSHIPS**

The overall CB defense program management structure, portrayed in Figure 1-1, helps facilitate coordination and integration of the program. This management and oversight structure was developed in late 1996 to provide integration of medical and non-medical CB defense efforts at the Service level. Integration of CB defense efforts continued in 1997.



**Figure 1-1. Chemical and Biological Defense Program Management Structure**

ATSD(NCB) is the single office within OSD responsible for oversight of the DoD CB defense program.<sup>1</sup> ATSD(NCB) promulgates the DoD CB Defense Program Management Plan which specifies the relationships and responsibilities among the coordinating agencies.

ATSD(NCB) provides the fiscal and programming guidance to the Joint NBC Defense Board (JNBCDB) to develop the POM. The Joint NBC Defense Board issues POM Preparation Instructions to the subordinate groups which review the validated requirements and build the POM strategy recommendations. The CB defense program is divided into the following commodity areas: contamination avoidance, individual protection, collective protection, decontamination, medical chemical defense, and medical biological defense. These commodity areas correspond to the projects under the budget program elements. There is also a program budget element to support program management and oversight in accordance with the Joint Service Agreement and in compliance with 50 USC 1522. The JSIG is the principal steering group

<sup>1</sup> In November 1997, DoD published *The Defense Reform Initiative*, which among other things, proposed the elimination of ATSD(NCB). ATSD(NCB)'s responsibilities are proposed to be transferred to Defense Agencies, the Services, and other offices within OSD. During FY98 this issue is being addressed by the Defense Management Council. The changes within OSD should have no impact on the Joint Service Chemical and Biological Defense Program management structure, though it may change the structure within OSD for oversight of the program.

which oversees the coordination and integration of Service and CINC requirements and priorities for RDT&E and initial procurement. The JSMG is the principal steering group that manages execution of RDT&E materiel development efforts to ensure that the program risk is mitigated across commodity areas, and the ongoing efforts are complementary but not duplicative.

A Medical Program Sub-Panel (MPSP) has been proposed as part of the JSIG (as indicated in Figure 1-1). The first Multi-Service action officer meeting for the MPSP was held on 6 January 1998 and was chaired by the Senior Clinical Consultant for the Army Medical Department Center and School (AMEDDC&S). A draft charter for the implementation of the MPSP was presented for action officer review and ultimate approval by the Joint NBC Defense Board. The proposal for the MPSP is to have the sub-panel chaired by the Commander, AMEDDC&S, in accordance with current practices. However, it will be the responsibility of the Army, as the Executive Agent for the Joint NBC Defense Board, in consultation with the JSIG staff, AMEDDC&S, and other interested organizations, to determine and implement optimal arrangements for executing integration of MPSP into the JSIG. The purpose of this panel would be to identify medical program needs and requirements as developed by the AMEDDC&S, CINCs, Services, Joint Staff, the ASBREM Committee, and other users. The MPSP would have the primary responsibility for prioritizing medical CB defense requirements. The users and Joint Technology Coordinating Group (JTCG) 3 (MCDRP) and JTCG 4 (MBDRP) would provide input of medical requirements (separate from non-medical requirements) to the MPSP. The MPSP would coordinate, integrate, and prioritize all of the user requirements input. It would provide the consolidated, integrated, and prioritized list of medical CB defense requirements to the JSIG. The JSIG would submit the medical requirements list along with the non-medical requirements list to the JNBCDB. The JSIG may provide comments but would make no changes to the list when submitting the medical requirements to the JNBCDB. The JNBCDB and DATSD(CP/CBD) may make changes to the medical or the non-medical requirements and priorities list.

The Deputy Assistant to the Secretary of Defense for Counterproliferation and Chemical/Biological Defense, DATSD(CP/CBD), is a deputy to ATSD(NCB) and is responsible for the overall coordination and integration of all CB defense research, development, and acquisition (RDA) efforts. DATSD(CP/CBD) provides the overall guidance for planning, programming, budgeting, and executing the CB defense program. DATSD(CP/CBD) also retains approval authority for all planning, programming, and budgeting documents. DATSD(CP/CBD) is responsible for ensuring coordination between the medical programs and the non-medical CB defense efforts, and management oversight of the DoD CBDP in accordance with 50 USC 1522.

The Secretary of the Army is the Executive Agent responsible to coordinate, integrate, and review all Services' CB defense requirements and programs. The Secretary has delegated this responsibility to the Assistant Secretary of the Army for Research, Development and Acquisition, ASA(RDA), who along with the Vice Chief of Staff of the Army, co-chairs the Joint NBC Defense Board. The military departments' acquisition organizations execute the individual CB defense programs according to Service and DoD directives.

### **1.3 TECHNOLOGY BASE REVIEW AND ASSESSMENT**

The Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs, ATSD(NCB), in coordination with the Director, Defense Research & Engineering (DDR&E), provides technical oversight of all Service and Defense Agency chemical and biological defense science and technology base (S&T) programs and reviews these programs at least annually. By March of each year, ATSD(NCB) prepares the relevant NBC defense portions of three key documents detailing DoD S&T efforts:

- the Joint Warfighting S&T Plan (JWSTP)
- the Defense Technology Area Plan (DTAP), and
- the Basic Research Plan (BRP).

These plans are issued with the Defense Planning Guidance to guide preparation of the CB Defense Program S&T budget and programming efforts. Copies of these plans are submitted to Congress separately in accordance with public law.

### **1.4 DARPA BIOLOGICAL WARFARE DEFENSE PROGRAM MANAGEMENT**

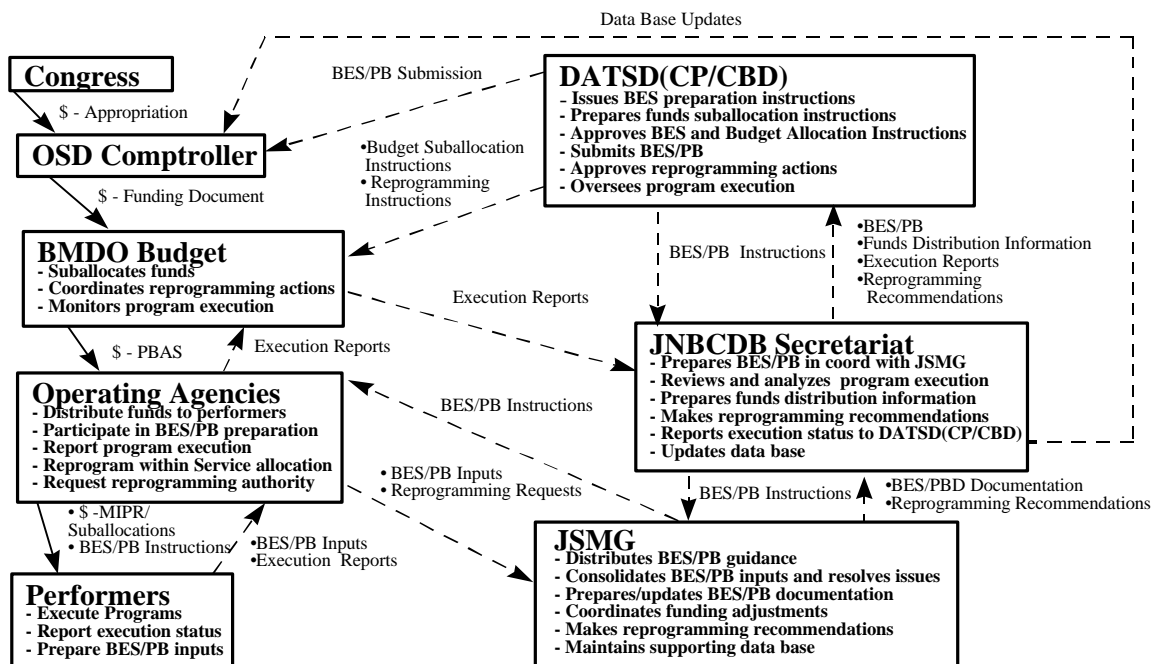
The Defense Advanced Research Projects Agency (DARPA) is charged with seeking breakthrough concepts and technologies. DARPA's Defense Sciences Office (DSO) manages its Biological Warfare (BW) Defense Program, which is intended to complement the DoD CB Defense Program by anticipating threats and developing novel defenses against them, and pursues the development of technologies with broad applicability against classes of threats. DARPA invests primarily in the early, technology development phases of programs, with rapidly decreasing involvement in the succeeding stages that lead to system development.

The FY98 National Defense Authorization Act directed the Secretary of Defense to ensure that the DARPA biological warfare defense program is coordinated and integrated under the program management and oversight of the DoD CBD program. The DARPA BW Defense Program coordinates its efforts with DATSD(CP/CBD) through briefings to DATSD(CP/CBD). The Advanced Diagnostics portion of the DARPA BW Defense Program is closely coordinated with the U.S. Army Medical Research and Materiel Command (MRMC) and maintains representation on the recently formed Common Medical Diagnostic Systems Executive Committee. A panel of chemical/biological defense experts is routinely consulted by DARPA to evaluate programs and to ensure that National Institutes of Health (NIH) efforts are not being duplicated. The DARPA BW Defense office also maintains representation at CBD Program committee meetings, such as ASBREM sub-committee meetings. Additionally, DARPA participates in the BW Seniors Group which provides Government coordination outside of DoD.

### **1.5 FUNDS MANAGEMENT**

Figure 1-2 describes the funds management and execution process for the CB defense program and the coordination between funding and executing organizations. The key organizations in this process are: DATSD(CP/CBD) as the OSD focal point; the JNBCDB Secretariat

representing the Executive Agent; the Ballistic Missile Defense Office (BMDO) as the funds manager; the JSMG as coordinator and interface between the participating organizations; and the operating agencies and performers which execute the programs. For budget distribution, the JNBCDB Secretariat provides funds distribution information to DATSD(CP/CBD) based on the appropriated budget. The DATSD(CP/CBD) prepares funds suballocation instructions and submits them to the BMDO to distribute the funds to the operating agencies.



**Figure 1-2. Chemical and Biological Defense Funds Management Process**

The lead components or operating agencies provide notification of all funding adjustments to the JSMG Executive Office. The JSMG Executive Office, in turn notifies the other components/agencies and the JNBCDB Secretariat (to update the database). For minor adjustments other than reprogramming actions, this is the only necessary action. The JSMG Executive Office forwards to the JNBCDB Secretariat the reprogramming requests with recommendations and any concerns raised by the other components and operating agencies. The JNBCDB Secretariat reviews the reprogramming actions and forwards its recommendations to DATSD(CP/CBD). Once approved, DATSD(CP/CBD) authorizes BMDO to execute the reprogramming. During the execution year for medical programs, the Headquarters, U.S. Army Medical Research and Materiel Command (USAMRMC) staffs all actions resulting from the requirement to reallocate funds between the Services.

DATSD(CP/CBD) instructs BMDO to issue execution and program status reporting instructions. The lead components report execution status to BMDO on a monthly basis. BMDO forwards all reports to the JNBCDB Secretariat for analysis. The JNBCDB Secretariat reports execution status to DATSD(CP/CBD) on a quarterly basis. It is the JNBCDB

Secretariat's responsibility to notify the DATSD(CP/CBD) when programs deviate from or are in danger of not meeting obligation and execution goals.

BMDO serves as the funds manager for the CB defense program. They issue funding documents, per DATSD(CP/CBD) direction, and perform all required accounting functions, with the assistance of the Army staff which represents the Executive Agent. The JNBCDB Secretariat updates the OSD comptroller databases as necessary after the POM, Budget Estimate Submission (BES), and President's Budget (PB). DATSD(CP/CBD) ensures that the JNBCDB Secretariat is kept informed of all OSD comptroller guidance, directives, and schedules.

## **1.6 NBC DEFENSE PROGRAM MANAGEMENT ASSESSMENT**

***ISSUE:*** Oversight and management of the DoD NBC defense program continues to mature. It is imperative that the management system produces joint NBC defense requirements and NBC defense equipment that can be used by all forces. Public Law 103-160 (50 USC 1522) has provided a key tool for ensuring a jointly focused NBC defense program. The continued support of Congress and implementation of current plans will continue to improve jointness and readiness.

***SOLUTION:*** DoD has completed implementation of 50 USC 1522:

- An organizational structure ensuring close and continuous coordination of CB warfare defense and CB medical defense programs.
- The DoD CB Defense Program is fully integrated and coordinated and is based on validated Service requirements generated in response to defined threats. In addition, the Services now jointly prepare (i) Modernization Plans, (ii) Research, Development and Acquisition (RDA) Plans, and (iii) Joint Logistics Support Plans for NBC defense programs.
- Responsibility for the CB Defense Program is vested in a single office in OSD and oversight is conducted using the DAB process.
- DoD has responded to all recommendations provided in the General Accounting Office (GAO) report NSIAD-96-103. DoD-planned actions in response to the GAO report were provided to the GAO in a letter from the ATSD(NCB), dated 11 October 1996, Subject: Follow-up on GAO Report NSIAD-96-103 (OSD Case 1099), "Chemical and Biological Defense: Emphasis Remains Insufficient to Resolve Continuing Problems" March 29, 1996.
- A key DoD action in response to the GAO report was the development of an immunization program for biological warfare defense. A description of this program is provided in Chapter 3 (p. 3-18).

### ***Continuing Process Improvements***

Improvements to the Joint Requirements Document process need to be made in order to shorten the processing time and establish joint standards for other than Major Defense Acquisition Programs. The JSIG has requested that the JCS J-8 include process improvements in the next update to the Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01,

dated 13 June 1997, entitled "Requirements Generation System" (formerly, CJCS Memorandum of Policy 77 (MOP 77)).

Standardization of a DoD wide equipment funding and acquisition policy is another process improvement being investigated to improve efficiency and economy.

### *Modeling and Simulation*

The use of modeling and simulation (M&S) is an essential aspect of the current and future NBC Defense program. The NBC Defense program is enhanced by modeling and simulation in the assessment of NBC threats, survivability, and training, and provides commanders with decision aids based on the integration and interpretation of real-time data. Transport models, toxicity models, point and standoff detector data models, and meteorological models are being integrated in warfighter simulations. This will allow soldiers to experience the operational impact and consequences of nuclear, biological, and chemical weapons in a computer-generated combat environment. Simulation of existing and proposed CB defense equipment will demonstrate their value on the battlefield and enable optimization of their performance requirements for more shrewd procurement. The development and validation of standard CB warfare hazard model for the Services is a critical part of this effort. Interoperability of models in the common forum of the Distributed Interactive Simulation (DIS) network is also a goal.

The Joint Service Integration Group (JSIG) is pursuing establishment of a commodity area manager to integrate and coordinate all NBC modeling and simulation efforts across the Joint Services, Joint Staff, and Defense Agencies. A draft charter for this commodity area is under development and a manager from the lead Service will be assigned after its completion. Concurrently, the JSIG is developing a Model and Simulation Master Plan that will outline costs, schedule, and management responsibilities to implement the findings of the CB Modeling Process Action Team (PAT) which has been tasked with providing OSD with a consolidated and integrated CB modeling program.

Over the past three years, the U.S. Army Chemical and Biological Defense Command (CBDCOM) has developed a suite of advanced Distributed Simulation (DS) models and simulators representing all aspects of the CB battlefield, including CB agent threat environment; Chemical and Biological Defense Equipment (CBDE) such as the FOX and BIDS vehicles, CB point and standoff detectors; individual and collective protection systems; and performance degradation effects on personnel due to agent exposure and protective equipment. These simulation tools form the backbone of the Simulation Based Acquisition (SBA) process for CBDE. SBA involves the use of simulation technology that is integrated across all acquisition phases and programs from concept development through sustainment. These tools have been developed primarily for the Research, Development and Acquisition (RDA) M&S domain and will be used for the design, optimization and integration of CB Defense Equipment and systems. In addition, these same tools are being adapted by the Dugway Proving Ground for their "Virtual Proving Ground." Thus, the same simulation tools can be used for both Research and Development as well as for Test and Evaluation. Further, while envisioned as an RDA activity, the

tools are also being applied to the TRADOC community's Advanced Concepts and Requirements and Training and Exercises of Military Operations, M&S domains.

These tools are currently being used to support various on-going development programs at CBD COM such as the Integrated Biodetection Advanced Technology Demonstration (ATD); Long Range-Biological Standoff Detection System (LR-BSDS) Tactics Study; Light NBC Reconnaissance System (LNBCRS), Light Standoff Chemical Agent Detector (LSCAD); Chemical Biological, Distributed Infantry (CBDI); Joint Warning and Reporting Network (JWARN); FOX/MM1 Training Suite Enhancement at the U.S. Army Chemical School; Backtrack System and Synthetic Theater Of War-1997 (STOW 97) ACTD. In addition, they have supported several military exercises such as Joint Warfighting Interoperability Demonstration for 1997 (JWID-97), Pacific Joint Task Force Exercise (PAC/JTFEX-97), Atlantic Joint Task Force Exercise (ATL/JTFEX-97), Roving Sands 97, and Unified Endeavor 97.